

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of synchronizing graphics commands in a multi-stage graphics system, comprising:

adding draw commands to entries in a draw command list, the draw commands for drawing graphics on a frame;

associating one or more predicate functions with at least some entries in the list, each predicate function satisfiable upon the occurrence of a condition; [[and]] responsive to the satisfaction of the predicate functions associated with each entry, transferring the draw commands in the entry to a next stage in the graphics system; and

loading textures into a texture memory of the graphics system by adding instructions for loading a texture into a texture load list and loading textures into the texture memory according to the texture load list when texture memory is available.

2. (Canceled)

3. (Currently amended) The method of claim 1 [[2]], wherein loading textures comprises:

determining whether a texture can be placed in the texture memory according to a linear, first-fit placement algorithm;

if the determination is positive, loading the texture into the texture memory according to the linear, first-fit placement algorithm.

4. (Canceled)

5. (Currently amended) The method of claim 1 [[4]], wherein whether texture memory is available is determined according to a linear, first-fit placement algorithm.

6. (Original) The method of claim 1, wherein entries in the list are stored in queue, and wherein draw commands in the entries in the list are transferred to a next stage of the graphics system in a first in first out order.

7. (Currently amended) The method of claim 1 [[2]], wherein the loading comprises: scaling a texture to align the texture with an address boundary in the texture memory.

8. (Original) The method of claim 7, wherein the texture is aligned on a 32-bit address boundary.

9. (Original) The method of claim 1, wherein draw commands are added to entries in the draw command list by adding a reference to the draw commands stored in memory.

10. (Original) The method of claim 1, wherein the draw command list comprises a FIFO queue.

11. (Original) The method of claim 1, wherein a draw command is associated with a texture, the method further comprising:

associating a predicate function with the entry in the draw command list that holds the draw command associated with the texture, the predicate function satisfied responsive to the texture's being loaded into a texture memory of the graphics system.

12. (Original) The method of claim 1, wherein a draw command is associated with a screen buffer in the graphics system, the method further comprising:

associating a predicate function with the entry in the draw command list holding the drawing command, the predicate function satisfied responsive to the screen buffer's being a back buffer.

13. (Original) The method of claim 1, further comprising:  
associating a completion function with an entry in the draw command list, the  
completion functions adapted to execute responsive to the associated entry's  
being transferred to a next stage of the graphics system.

14. (Original) The method of claim 1, wherein the graphics system is adapted to  
execute an interrupt service routine (ISR) responsive to an occurrence of a predetermined event  
in the graphics system, the ISR being adapted to:

examine the predicate functions associated with a first entry in the drawing command  
list; and  
responsive to a determination that all of the predicate functions associated with the  
first entry are satisfied, transferring the drawing commands in the entry to the  
next stage in the computer graphics system.

15. (Original) The method of claim 14, wherein the predetermined event is a swap  
event.

16. (Original) The method of claim 14, wherein the predetermined event is a loading  
of a texture into a texture memory of the graphics system.

17. (Original) The method of claim 14, wherein the ISR is further adapted to:  
determine whether a predicate of the first entry in the drawing command list is  
satisfied; and  
responsive to a determination that the predicate is satisfied, indicate that the predicate  
is satisfied.

18. (Currently amended) A method of managing resources in a multi-stage graphics  
system, comprising:

while the graphics system is drawing a current frame to a display,

processing graphics data associated with a later frame, the graphics data including draw commands associated with one or more textures; queuing the draw commands for being transferred to graphics hardware, wherein at least some of the draw commands are associated with one or more conditions and at least some of the conditions including whether the textures associated with the draw command have been loaded into a texture memory; and transferring each draw command to a next stage of the graphics system upon the satisfaction of all of the draw command's conditions.

19. (Original) The method of claim 18, wherein at least some of the conditions include whether a swap event occurred.

20. (Canceled)

21. (Original) The method of claim 18, further comprising loading the textures into a texture memory according to a linear, first-fit placement algorithm.

22. (Original) The method of claim 18, further comprising queuing the loading of textures into a texture memory.

23. (Currently amended) A computer program product comprising a computer-readable medium having computer program code embodied therein for managing graphics resources, the computer program code comprising:

a graphics module for processing draw commands, the draw commands associated with one or more textures;  
a draw entry module adapted to maintain a draw command list of draw entries, each draw entry containing one or more draw commands, wherein at least some draw entries further contain one or more predicate functions satisfiable upon

the occurrence of a condition, at least one of the predicate functions being satisfied if a particular texture has been loaded into the texture memory; and a draw entry logic module adapted to transfer each draw entry's draw commands for processing if all of the draw entry's predicate functions are satisfied.

24. (Original) The computer program product of claim 23, further comprising:  
a texture loading module adapted to load textures into a texture memory according to a linear, first-fit placement algorithm.

25. (Original) The computer program product of claim 23, further comprising:  
a texture load list module adapted to add instructions for loading textures to a texture load list; and  
a loading list logic module adapted to load textures into the texture memory when texture memory is available according to the texture load list.

26. (Canceled)

27. (Original) The computer program product of claim 23, wherein a predicate function is satisfied upon a swap event.

28. (Original) The computer program product of claim 23, wherein each draw entry contains a reference to one or more draw commands stored in a memory.

29. (Currently amended) A computer program development environment for producing a computer program product, the computer program product comprising:  
a graphics module for processing draw commands, the draw commands associated with one or more textures;  
a draw entry module adapted to maintain a draw command list of draw entries, each draw entry containing one or more draw commands, wherein at least some draw entries further contain one or more predicate functions satisfiable upon

the occurrence of a condition, at least one of the predicate functions being satisfied if a particular texture has been loaded into the texture memory; and a draw entry logic module adapted to transfer each draw entry's draw commands for processing if all of the draw entry's predicate functions are satisfied.

30. (Original) The computer program product of claim 29, further comprising:  
a texture loading module adapted to load textures into a texture memory according to  
a linear, first-fit placement algorithm.

31. (Original) The computer program product of claim 29, further comprising:  
a texture load list module adapted to add instructions for loading textures into a  
texture load list; and  
a loading list logic module adapted to load textures into the texture memory when  
texture memory is available according to the texture load list.

32. (Canceled)

33. (Original) The computer program product of claim 29, wherein a predicate  
function is satisfied upon a swap event.

34. (Original) The computer program product of claim 29, wherein each draw entry  
contains a reference to one or more draw commands stored in a memory.

35. (Currently amended) A method of developing a computer program product, the  
method comprising:  
receiving graphics data and program code from a developer; and  
combining the graphics data and program code with:  
a graphics module for processing draw commands, the draw commands  
associated with the graphics data,

a draw entry module adapted to maintain a list of entries, each entry containing one or more draw commands, wherein at least some entries further contain one or more predicate functions satisfiable upon the occurrence of a condition, [[and]]  
a list logic module adapted to transfer each entry's draw commands for processing if all of the entry's predicate functions are satisfied,  
a texture load list module adapted to add instructions for loading textures into a texture load list, and  
a loading list logic module adapted to load textures into the texture memory when texture memory is available according to the texture load list;  
thereby yielding the computer program product.

36. (Original) The method of claim 35, wherein combining further comprises combining the graphics data and program code with:  
a texture loading module adapted to load textures into a texture memory according to a linear, first-fit placement algorithm.

37. (Canceled)

38. (Original) The method of claim 35, further comprising:  
optimizing the computer program product to create a plurality of applications compatible with different hardware platforms.